

U.S. Serial No. 10/098,529Docket No.: 740165-26**BEST AVAILABLE COPY**REMARKS

The rejection of pending claims 1, 2, 4, 6 and 22-25 has been obviated by revising independent claim 1, dependent claims 22, 23 and 24 and independent claim 25 so that they more clearly distinguish the invention from the references of record. However, before the specific language of the amended claims is discussed, a brief recap the principal features and advantages of the invention will be made so that the language of the amendment may more fully appreciated.

Generally speaking, the invention is a folding-type mirror device for a vehicle of the type having a motor base for swinging the mirror unit into a desired position. As is pointed out in the "Background.." section of the specification, prior art folding-type mirror devices tend to vibrate in the vicinity of the base portion of the support shaft during the operation of the vehicle. As is further pointed out in the paragraph bridging pages 18 and 19, the base portion of such mirror devices is also subject to the load applied by the electric motor which swingably moves the mirror unit around the support shaft extending from the base portion. The base portion could, of course, be strengthened merely by making it thicker. However, the applicants have noted that such thickening creates problems in the form of unwanted shrinkage and warping on the surface of the case and in the necessity of increasing the number of steps in the production of the case.

To solve these problems, the folding-type mirror device of the invention provides a plurality of radially extending ribs that connect an annular wall of the support portion with the bottom of the support portion. Such a structure solves the problems caused by the loads applied by the electric motor and the vibration generated when the vehicle is in operation.

Claim 1 has been amended to more specifically define the invention by adding the limitation of dependent claim 5, in addition to other limitations. Specifically, claim 1 now recites a folding-type mirror device for a vehicle that comprises a support shaft including a base portion, a case installed on a support shaft that includes a support portion "having an annular wall" and a bottom portion having a bottom wall and sidewalls radially spaced apart from the support portion and

"a plurality of reinforcing ribs integrally connecting an outer surface of the annular wall with the sidewalls and bottom

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wall of the bottom portion, wherein said reinforcing ribs radially extend from said annular wall to said sidewalls a distance substantially greater than a thickness of said annular wall;..."

Claim 1 further recites a mirror unit attached to the case and swingably around the support shaft, and

"a motor base which is integrally mounted inside the case and includes a fitting portion fitted to a distal end portion of the support shaft, and an electric motor disposed on the motor base for swinging the case and mirror unit."

None of the references of record either discloses or suggests the folding-type mirror device defined in amended claim 1. In paragraph 8 of the last Office Action, the Examiner concedes that the limitations of claim 5 are not disclosed by any single reference of record. Instead, the limitations of claim 5 (of which amended claim 1 now includes) was rejected over the combination of the Maekawa '465 patent and the Sakata '050 patent. However, no tenable combination of these references could possibly result in the folding type mirror device defined in amended claim 1. The Maekawa '465 patent neither discloses nor suggests the recited bottom wall of the support portion, nor the motor base, much less a motor base "integrally mounted inside the case and [including] a fitting portion fitted to a distal end portion of the support shaft..." As is expressly set forth on pages 1-3 of the Maekawa '465 patent, the primary purpose of the Maekawa invention is to improve upon the prior art structure illustrated in Figure 1 of that reference, wherein the mirror housing 3 is separate from the bracket 5 having a bearing portion 5a. The Maekawa '465 patent teaches the simplifying of the manufacture of the mirror unit by integrally molding together these two components, as is set forth in the first paragraph on page 4 as follows:

"Since the synthetic resin-made mirror housing and the bearing member which bears the mirror based shaft are formed together by the integrally molding, their weight is extremely small and the mirror-housing supporting structure is very simple, which facilitates very much the installation of the door mirror."

As pointed out before, the Sakata '050 patent neither discloses nor suggests the recited ribs, much less ribs that "radially extend from said support portion a distance substantially greater than a thickness of said annular wall;..." Moreover, this patent neither discloses or suggests the newly recited "bottom wall" of the support portion. All this patent discloses is a mirror unit having substantially the same structure as the prior art illustrated in Figure 1 of the

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Maekawa '465 patent. Note in particular how the mirror housing 20 is separate from the positioning unit 50 (see the exploded view of Figure 1 of the Sakata '050 patent). Hence, any combination of the Maekawa and Sakata patents would result, at best, in a Sakata-type mirror device where the mirror housing and the positioning unit are integrally molded together. It would not result in the claimed folding-type mirror device comprising a support shaft including a base portion, a case installed on the support shaft having an annular wall wherein "reinforcing ribs integrally [connect] an outer surface of the annular wall with the sidewalls and bottom wall of the bottom portion;...[and] radially extend from said annular wall to said sidewalls a distance substantially greater than a thickness of said annular wall..." as there simply is no incentive, motivation or teaching to modify the bearing 58 shown in Figure 4 of the Sakata '050 patent with the ribs 22 illustrated in Figure 4 of the '465 patent, much less any incentive to provide ribs in the Sakata structure with all the structural limitations set forth in amended claim 1. In fact, the references, taken as a whole, would actually teach against such a modification. In Figure 4 of '050 patent, the bearing 58 is shown as being formed from a solid piece of molded plastic. This is understandable in view of the load and weight forces applied between this component and the shaft around which it rotates. Replacing the solid wall of plastic forming the bearing 58 with the 3 relatively thin ribs illustrated in Figure 4 of the Maekawa '465 patent would clearly result in a structure that was simply too weak to operate well. Hence the thick solid wall of plastic forming the bearing 58 would be maintained, as there is no teaching in either reference of the problems associated with the molding of such thick walls (i.e., warpage). For all these reasons, amended claim 1 is patentable over any tenable combination of the Maekawa and Sakata references.

Claim 5 has been cancelled since the limitations therein have been incorporated into claim 1.

Claims 2, 4 and 6 are patentable at least by reason of their depending on claim 1.

Claims 22, 23 and 24 are patentable not only for their dependence on claim 1, but for their recitation of other structural features neither disclosed nor suggested by the art of record.

Finally, claim 25 has been amended to recite the bottom wall of the support portion, and that the reinforcing ribs "extend from said support portion a distance substantially greater than a thickness of said annular wall...", and further that the ribs "extend parallel to said support shaft between an upper surface of said bottom wall...and a gear operatively connected to an output of said electric motor..." As these features are neither disclosed nor

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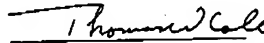
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suggested by the prior art of record for many of the same reasons given with respect to claim 1, claim 25 is likewise patentable.

Now that all the claims are believed to be patentable, the prompt issuance of a Notice of Allowance is hereby earnestly solicited.

Respectfully submitted,



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